

Iconic predators of Europe

What can we learn from the history of large predatory mammals distribution in Europe during the Holocene?

Level: Master

Start: Any time

Project duration: 4-6 months

Location: This desktop study can be done from home

Project form: Literature research, database construction and analysis, GIS

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Unmistakably, the wolf (*Canis lupus*) is returning in Europe. After being extirpated in large parts of Europe in the past centuries the species is quickly establishing new packs throughout the continent. The reasons for this return are probably not exactly known. Less hunting pressure and more effective conservation efforts are often mentioned but it can also be the case that the species' versatility makes it highly adaptable to the present countryside. Other large predators like brown bear (*Ursus arctos*), Eurasian lynx (*Lynx lynx*) and golden jackal (*Canis aureus*) are less conspicuously present in the European landscape and although it sometimes appears that they are returning as well, evidence is mostly less convincing. Other predators like the red fox (*Vulpes vulpes*) never seems to have been away in most parts of Europe. The truth is, however, that we know surprisingly little about the actual occurrences of these species since the beginning of the Holocene, perhaps with the exception of the wolf in historic times, despite some allegedly accurate maps published recently (see below). Where and when did which species occur in the past? Did they actually decline and, if so, when? And can humans be held responsible for this decline? Through which mechanisms did declines take place?

In the 21st century the landscape of Europe will probably undergo massive changes, hopefully creating more spaces for nature, especially for large mammalian herbivores and their predators. Insight in the past of these species can help management towards the future. While for many herbivores much is known from archaeological excavations about their past occurrences due to their direct utility to humans and their higher numbers compared to their predators, there seem to be no integrated reconstructions of most large predators in Europe. This project aims to bring together the available information on the Holocene occurrences of large carnivores in Europe and analyse this data against the background of human agency (especially hunting and land-use change) in a spatiotemporal matrix.

